ASSESSMENT OF CAPACITIES SURVEY

1967 - 68

A REPORT
ON
PAINTS & VARNISH INDUSTRY

INDUSTRIAL SURVEY CELL
DIRECTORATE OF INDUSTRIES
DELHI ADMINISTRATION, DELHI

PREFACE

In order to evolve a rational basis for the allocation of raw materials between Large, Medium and Small Scale Sectors, the Government of India decided to assess the production capacity of different sectors on uniform pattern. The Development Commissioner, Small Scale Industries, Government of India directed the State Directors of Industries to conduct the Survey of Capacities in respect of Small Scale Units manufacturing any of the 22 specified items according to the guidelines laid down by them.

The Paints and Varnishes is one of those Specified Industries covered under the first phase of the Survey. As per directions, the Survey was limited to such units who were employing more than five workers and so 19 Small Scale Units manufacturing Paints and Varnishes have been covered under the Survey. The present study is based on the data collected under the Survey as well as supplementary information. The Survey has revealed that the Units are able to utilize only 44.75% of their capacity. The major factors contributing to the unutilized Capacity are meagre allotment of Titanium Dioxide restrictions on imports of raw materials as well as intense competition from the Large Scale Sector who through a wide publicity media have been able to build up a sheltered market with their branded products.

The Survey Team comprising of Sarvshri R.N.Suri, Research Officer, K.P.Chaudhry, Industrial Survey Officer and R.L.Sharma, Industrial Inspector have managed this assignment very well and I congratulate them for this useful report.

I am grateful to all the Small Scale Units covered under the present Survey for their co-operation in providing the data.

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Delhi

L. N. SAKLANI
DIRECTOR OF INDUSTRIES

Dated 19th November, 1969.

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INTRODUCTION

The role of Small Scale Industries in the decentralised economy of India has been recognised through successive plans. Even before independence the main content of Swadeshi Movement was utilisation of local resources and establishment of Cottage and Small Scale Industries. These industries are not only less capital intensive but also have vast employment potential. Indian Capital is traditionally known as 'shy' and to mobilise it for productive purposes the best course to be adopted could be one which offers rich and quick dividends on it. Small Scale Industries bear fruit comparatively early and have less gestation period. Moreover these have an immense possibilities of direct involvement of enterpreneurs and thereby satisfy the ego of personal participation and ensure the benefit of growth. The logical collary of all this solid thinking was the increasing emphasis on the establishment and growth of Small Scale Industries.

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The First Plan rightly laid more emphasis on enhanced agricultural production but in the second plan the emphasis shifted to Industrialisation and programmes for the development of Small Scale and Cottage Industries were recorded high priority. These industries were also expected to develop as ancillary units to large scale sector besides producing those goods which cater to individual tastes and are adoptable. In order to stimulate their growth Government also reserved certain fields of production exclusively for Small Scale Sector and also devised improved ways of adopting a preferential policy for the goods manufactured in Small Scale Sector in its purchase programme. Government also established a number of All India Boards to look after the growth of individual Industries as well as Central Development Organization and a number of Small Industries Service Institutes to guide and regulate the growth of Small Scale Sector as well as to offer the facilities of technical know-how and Testing/Laboratory facilities. Under the State Aid to Small Industries Programme loans were envisaged to be advanced to Small Scale Industries for their expansion programme. National Small Industries Corporation was set up to arrange for the vital machinery on Hire/purchase basis.

All these steps naturally accelerated the growth of Small Scale Sector and it continued to expand. Not only the number of Small Scale Industrial Units grew up but the turn-over of the existing items increased and the range/field of the products manufactured by them also widened. With the passage of time the problems attended with growth and expansion began to exercise their impact on the Small Scale Sector. Certain factors continued to stiffle its growth and scarcity of vital raw materials began to be felt by it. Small Scale Sector represented to the Government that in the allocation of scarce raw materials it was not getting its due share as compared to large scale sector/medium scale sector. Naturally, their schedule of business turnover was adversely affected. The International Prospective Planning Team which was appointed early in 1962, opined of all the present difficulties, raw materials available at competitive prices appear to be the greatest. The evidence points out that inequities in the distribution of raw materials and inputs are so severe that they tend to overside all other types of assistance offered to small firms by the Government". In order to have thorough examination of whole issue and to evolve a solution of this paramount obstacle in the way of small scale sector, Government of India appointed a Committee on Scarce raw materials popularly known as "Lokanathan Committee" in August, 1964 to advise the Government on (a) how best to secure equitable allocation of available scarce raw materials among the three sectors (b) how best to evolve that the materials so allotted are utilized to the fullest advantage for the purpose for which they are allotted.

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The Committee expressed the opinion that in the existing set up and rules governing the allocation of raw materials between different sectors the Small Scale Sector is able to get only about one third of its present requirement of raw material while comparatively the large scale sector is comfortably placed and were able to utilize between half and the third of its production capacities.and The Committee was convinced that a rational, equitable and enduring system of allocation can be based only on an accurate dependable and uniform assessment of production capacities and actual production in the two sectors and accordingly recommended for assessment of capacities in the two sectors.

The Government accepted the recommendation and entrusted the Development Commissioner, Small Scale Industries with the responsibility of assessing the capacity in respect of Small Scale Sector. In order to keep the task within manageable limits, the Development Commissioner, Small Scale Industries decided to conduct an All India Survey with suitable phasing. The Development Commissioner, Small Scale Industries evolved a set of guidelines for the Assessment of Capacities on uniform basis throughout the country through the Directors of Industries in their States. A list of 22 Specified Industries was drawn up by them for the first round of the Capacities Survey.

The Development Commissioner, Small Scale Industries further directed that under the present Survey Operations only those units which are employing more than 5 workers should be covered under the Survey. The present survey of Assessment of Capacities was taken up in Delhi by this Directorate in October, 1967 as a part of All India Scheme in pursuance of this decision. 19 Small Scale Units manufacturing Paints and Varnish in the Union Territory of Delhi were covered under the Survey.

To draw up a list of all these units various channels were utilised. In the six leading Newspapers of the Capital an advertisement was given inviting all units manufacturing Paints and Varnishes to submit particulars about year of establishment, items of manufacture and number of workers. It was further supplemented by the particulars of Small Scale Units registered with this Directorate as available in our records as well as with our various Zonal Offices. The particulars in 1965 Census were also consulted for the preparation of comprehensive list of all these units. In all 19 Units were located meeting the yardstick of employment laid down by Development Commissioner, Small Scale Industries for the coverage of Survey. A circular letter alongwith the proforma designed for the purpose was sent to all these units in order to familarise them with the objectifes of the Survey as well as the contents of the information required. An Inspector of the Survey Cell was deputed to visit the units being covered under the Survey personally and to assess the capacities according to the guidelines laid down. The capacity was assessed at bottleneck stage on single shift basis for six working hours for 300 working days in a year. Since the particulars about the past production of three years as well as the number of workers for two years and the difficulties faced by them were desired to be collected as well as each and every operation was to be studied for the Assessment of Capacities the job involved was heavy and comprehensive. A unit on an average had to be visited thrice by the Inspector for the purpose. Officers of the Survey Cell also visited the units in order to ensure that the assessment is carried out according to the prescribed norms.

CHAPTER - I

INDUSTRIAL GROWTH

Ancient monuments and historical structurers bear ample testimoney to man's sense of colour right from the dawn of civilization. Man's quest for improvement and durability led him to the search of some sort of protective coating and led to the invention and acceleration of Paints and Varnish Industry. Nature itself abounded in colours and in ancient days Paints & Varnish were manufactured on the pattern of colours revealed through flowers, trees and fruits. By and by with the scientific development the plathora of colours, shades and combination grew and a wide range of final products came into production.

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Industrial Revolution gave a spurt to the Paints Industry throughout the world. The advent of steel and its increasing use was the most prominent signal factor contributing to its growth. From the initial attempts to use naturally accuring oils, earth pigments, the industry has grown into gigantic proportions drawing on the latest resources of Engineering, Physics and Chemistry.

Production and consumption of steel is considered an index of use of surface coatings. It has been estimated that a million tons of ignot steel generate a demand for 20,000 million tons of paints.

In the industrially advanced states, Paints Industry to-day ranks in equal importance with Plastic Dyestuffs, Explosives, Rubber etc.

Paints Industry is the major constituent of chemical industry to-day and has given impetus to the development of synthetic resin, pigment and solvent industries. In India the Paints Industry is now growing with the increased emphasis on industrialisation but still it is quite for behind as compared to other countries. The consumption of Paints as per person in India is just 0.2 Kg. as compared to average 6.0 Kg. in respect of fourteen European countries. The above has been revealed through a study conducted by O.E.F.C. in 1959/60.

The first unit for manufacturing Paints in the country was established in 1902. With the outbreak of World War I, the imports were drastically cut and emphasis on indigenous production increased. During World War II, the development of Industry took many strides due to heavy internal demand for Paints. During this period the Industry almost got localised in Eastern and Western Regions, to be more precise within the vicinity of Bombay and Calcutta though during the period 1944-46 a few units in Southern Region also came up.

The Paints and Varnish Industry involves the production of diversified products catering to individual tastes and preferences. These involve production of items for household purposes as well as industrial and surface coatings. At present most of the raw material required for the Industry are indigenously available and foreign exchange components of the products are being gradually and increasingly reduced. Indigenous production of raw material is being planned and executed through successive Plans. The equipment required for the manufacture of Paints and Varnish is also available within the country to a considerable extent and new Industrial ventures for their manufacture are also coming up. The machinery being manufactured within the country may not be as good as imported one but still efforts are being made to minimise the reliance on other countries.

There is considerable scope for the development of Paints and Varnish Industry in the Small Scale Sector. The know-how for this Industry is available to a greater degree within the country. The consumption of Paints and Varnish is steadily increasing and would continue to increase as the production of steel and cement increases. The basic characteristic of this Industry is that the most complicated Paint Product can be made in small batches. Its Capital requirement in terms of machinery is small. The ratio of volume of sales to investment on Plant is one of the highest in the Chemical Industry. Development of Small Scale Units is a necessity as it would be desirable to decentralise this Industry to avoid transporting large quantities of comparatively cheap products from one part of the country to another. Hence it is an ideal Industry to develop in the Small Scale Sector both from investment point of view as well as decentralised growth.

Though an ancient Industry, the Paint Industry has now crossed the take off stage and has embarked on a new healthy phase of its development and growth. Its progress and expansion is evident from the fact that new raw materials and machines and new sophisticated products mark it. Over the years and times the trend has shifted to tailor made finishes for specific needs rather than the general purpose Paints which are rapidly getting discarded. The products are specially designed to serve both protective and decorative angles. The advent of synthetic resins with their characteristic of water resistance has contributed to the protective aspect of Paints. To attract customers Paints are available in large variety of pleasing colours and shades. The 'Do it Yourself' movementhas encouraged the manufacture of quick drying Paints. This has resulted in production in brilliant array of shades to suit every whim and fancy. In short 'Paints Industry' now offers personalised service to its varied consumers, which has resulted in the development of small scale sector to cater to individual tastes.

Notwithstanding the heavy consumption of oil paints and colours, varnishes and distempers for house painting and metal and wood polishes, Delhi was totally dependent on their supplies from outside till 1931 when the first Paint, colour and Varnishes works was established in Delhi for the production of oil Paints and Spirit Varnishes on Small Scale. The severe cut in the supplies of imported Brands during the war years led to the establishment of 5 more paint and varnish industrial units during the year 1942-43 of which three set off on quite an ambitious scale. The premier concern in the line, however, closed down in December, 1943, due to certain adverse circumstances. The war economy gave a boost to the production of Paints & Varnish as at that time quality was not main consideration and whatever was produced could find a ready market. But the cessation of Second World War hostilities and partitioning of the sub-continent were two factors which gave a set back to the growth of Paints Industry in the Capital. Muslims Artisans, who were mainly responsible for running the industry in Delhi migrated to Pakistan.

According to an Industrial Survey conducted by this Directorate in 1950-51, there were nine units manufacturing Oil Paints Varnishes and Lacquers in Delhi. A comprehensive Census of Industrial Units was conducted by this Directorate in April, 1965 which revealed that there were 63 units manufacturing

Paints and Varnishes in Delhi. All the units manufacturing Paints & Varnishes in Delhi are in Small Scale Sector and there is no Large Scale Unit manufacturing Paints & Varnish in Delhi.

As stated earlier, the scope of the present study is confined only to those units which were employing more than five workers and were in existence prior to 31st March, 1967. Only 19 Units manufacturing Paints & Varnish meeting the above yardstick were functioning in Delhi. A Table indicating the distribution of 19 Units according to their year of Establishment is given below:-

TABLE NO.1.

INDUSTRIAL UNITS ACCORDING TO PERIOD OF ESTABLISHMENT

Period of Establishment 1	No. of Units 2	%age to the total 3
Before 1951	3	15.8%
1951 to 1955	4	21.1%
1956 to 1960	5	26.3%
1961 & after	7	36.8%
TOTAL	19	100.0%

The above table indicates that only 3 unkts were in existence before the first five year plan period i.e. before 1951. The First Five Year Plan gave some life to this industry and 4 units came into existence inspite of restriction on imports of raw materials required for the manufacturing of Paints and Varnishes.

The Second Five Year Plan gave a pride place to industrialisation taking into consideration the need for the diversified economy of the country. A large number of Semi-Government Undertakings such as Steel Plants, Machinery Manufacturing Plants, Light Engineering and Chemical Plants were being commissioned. The demand for paints also developed with the rising industrialisation of the country and Small Scale Paints and Varnish Units sprang up catering to the demand of the Paints and Varnish. During the Second Five Year Plan period i.e. (1956 to 1960) 5 units were established. During the Third Plan period seven units came into existence. The growth of Paints Industry in Delhi can be safely attributed to heavy increase in local demand. Delhi being the seat of the Government and the Capital of the country there has been tremendous increase in building activity both in the Privateand Public Sector. Further the pace of industrialization has also been quite ambitious. Delhi has the highest/per-capita income in India and certainly the increase demand for product-wise Paints & Varnishes is understandable.

CHAPTER - II

RANGE OF PRODUCTS, MANUFACTURING PROCESS AND MACHINERY USED

Paint Industry involves processing of various ingredients mainly on batch basis. Main raw materials have to be processed into Paint Consistency from various forms of solid or liquid state in which they are obtained. Flexibility regarding the minimum quality in which a particular paint is to be manufactured is permissible. It may vary from a few kilograms to a metric tonne. At present all over the world the technology of Paint manufacture is disseminated by the technical service rendered by the major raw material suppliers but this situation does not prevail in our country to a large extent as quite a number of major raw materials suppliers are themselves producing Paints and Varnishes as an end-product of course in large scale sector and so are therefore in direct competition with the Small Scale Sector.

In the initial stages Paints manufacturers start with simple type of products such as pastes, distempers varnish paints, mixed paints, aluminium paints and bituminous black etc. As they grow and are able to marshall better technical know-how and machinery they enter into more sophisticated field and manufacture natural and synthetic enamels and superior ready mixed paints. Peak and pinnacle is reached when the units are able to manufacture industrial finishes marine Paints and Specialities. No significant changes in machinery are involved in the manufacture of either cheap ready mixed Paints or fine ready mixed Paints what is involved is merely a refinement of processes already undergone at each stage.

RANGE OF PRODUCTS

The following Paint Products are being manufactured by the units covered under the Survey:-

1. Dry Distempered
2. Oilbound Distempers
3. Paste Paint or Stiff Paint
4. Ready Mixed Paint
5. Plastic Emulsion Paint
6. Varnish Paints
7. Aluminium Paints
8. Bituminious Black.
9. N.C.Lacquers,
10. Storing Varnishes and Enamels.
11. Thinners.

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For analysis, for explanation of manufacturing process and for categorisation of units according to range of Products the above mentioned products have been categorised according to six main groups which are as follows:-

1. N.C.Lacquers
2. Stiff Paints
3. Ready mixed Paint
4. Cement Colours.
5. N.C.Putty.
6. Thinners and Varnishes.

The Table No.2 given below indicates the number of units according to range of products.

Since one unit is manufacturing more than one end product, the number of units has gone up from 19 to 40.

TABLE NO.2

Industrial Units according to range of products.

Item of Products	No.of units
1	2
Nitrocellulose Lacquers	9
Stiff Paints	9
Dry Cement Colours	7
Ready Mix Paint	4
Thinners & Varnish	10
N.C.Putty & Surface Putty. ~~Putty~~	1
TOTAL	40

The table reveals that maximum number of units are producing Thinners & Varnishes while only one unit is engaged in the manufacture of N.C.Putty and Surface Putty. The number of units manufacturin Ready mixed Paints is only 4 as the demand for Ready mixed Paints is steadily declining as more and more iron material is being used now in place of woodden material in building activities.

Manufacturing Process:

Paint is a liquid mixture of pigments with drying oil to form a stiff paste and then with fine grinding and thinning to form the finished product. After final thinning the expert tinters help in the adjustment of colour. The manufacturing process of each of six categories, into which the products being manufactured by the~~s~~ units in Delhi have been categorised is given below:-

1. Nitrocellulose Lacquers are protective coating which dries by evaporation of its volatile components. Ingredients of Oils, such as Terpentine and minerals sprits and hydrocarbon like Toluene, Benzine and Xylene are grinded with Pigment generally in Ball Mills for about 36 hours to 48 hours depending upon the dispersion required. These Ball Mills are hollow Metal Cylinders which can be machanically rotated horizontally. For lacquers these Ball Mills are partially filled with Porcelain balls. The tumbling of the balls rapidly grinds the pigments particles. Steel Balls or flint pebbles are not used at the time of manufacturing lacquers so that the lacquer may not catch fire due to friction of Steel Balls at the time of tumbling.

Stiff Paint:

Pigments and oils according to proportioned quantity is put in the mixer. These mixers are so designed that the entire contents of the mixture are constantly swept from one end to the other. Thereafter this semi form is put in Roll Mill for thinning and fine grinding. This grinding process is carried from 3 to 4 hours in the Tripple Rolled Mill up to the required consistancy of the fine grinding.

Ready Mix Paint:

The manufacturing of Ready Mix Paints is similar to that of stiff paints except the desired colour is mixed with the Pigments and Oils in order to prepare the Ready Mix Paint of the same form and content required by the party.

Cement Colours:

Cement Colours include all dry colours such as Limefast Colours, Distempers, Oiled Water Paints. All these Dry Colours are manufactured in Ball Mills. The pigments and Dyes all put in the Ball Mill. For Dry Colours these Ball Mills are partially filled with Metal or Flint Stone Balls especially. The rotation in these Ball Mills generally take 4 hours for the refined grinding of particles of pigments between points of contacts.

N.C.Putty:

This is a rough type of Paint, required for industrial units only for surfacing purpose. Generally N.C.Putty is manufactured in Edge Runner Mill. Although dry colours can also be manufactured in Edge Runner Mills, but due to heavy wastage of pulvarised material in the shape of dust have proved un-economical. As such dry colours are not being manufactured in these mills. For manufacturing N.C.Putty the pigments and oils are put in the Edge Runner. These machines have one and occasionally two heavy rolls attached to a vertical shaft which rotates on a flat grinding surface. The pan and the rod are normally of cast iron with polished surface.

Thinners:

Denatured spirit is stirred with solvents in ordinary hollow barrels without any meachanical process. No machinery or equipment is required for its manufacturing.

Machinery Installed:

The basic objective and purpose of machinery required for Paints manufacture is its suitability for dispersion and the same has governed its manufacture right from primitive stage to scientific advancement.

The principal machinery required by the Industry is as follows:

(i) Edge Runner Mills
(ii) Horizontal Mills
(iii) Triple Rolls Mills
(iv) Single Roll Mills
(v) Ball Mills
(vi) High Speed Mixtures.
(vii) Attritors
(viii) Oil Treatment Plant
(ix) Varnish Kettles
(x) Synthetic Resin Plant
(xi) Strainers

The table given below will give a broad discription of the machinery installed by 19 units.

TABLE NO.3

DETAILS OF MACHINERY INSTALLED

S.No.	Name of the Machines	Specification	No. of Units.	No. of Machines
1.	2.	3.	4.	5.
1.	Ball Mills	Hand operated	6	31
2.	Ball Mills	Power operated	12	59
3.	Pug Mills	Hand operated	2	2
4.	Pug Mills	Power operated	10	14
5.	Tripple Roller	Hand operated	1	1
6.	Tripple Roller	Power operated	9	10
7.	Coal furnace	Hand operated	1	1
8.	Edge runner	Power operated	2	2
9.	Disintigrator (Chakki)	Power operated	2	2
10.	Uni Roll Mill	Power operated	2	2

From the table No.4, it is quite clear that how many machines of each type are installed in 19 units carried under the present assessment of capacity survey

A brief description of some of machine used by the units is given below:

Ball Mills:

These ball mills are hollow cylinders, which can be mechanically or by manual balance rotated horizontally. The cylinder is partially filled with balls may be of steel or stone, together with pigments and the medium and then rotated. The tumbling of the balls rapidly grinds the pigments particles between these points during the course of rotation.

Pug Mills (Mixers):

These pug mills are made in 'U' shape with a set of blades inside. When this pug mill is allowed to rotate, the blades in side are so arranged that the entire contents of the mixture are constantly swept from one end to the other.

Tripple Roll Mills:

The tripple roll mill consists of three cylinderical rolls of identical size. These rolls are made of chilled or Granite iron. All the three rolls ~~made of~~ rotate simultaneously one to forward and the other to back. The central roll is held in position with bearing blocks fixed to the frame of the mill. The pressure could be applied either manually or through hydraulic system. Tripple Roll Mills are particularly suitable for dispersion and fine grinding of Pigment and other substances in paste or semi-paste form and are not recommended for grinding lequid paints.

Edge Runnber Mills:

Edge Runnber Mill is required for the manufacture of Paste distemper and has become a well established and recognised mill for this work. Edge Ruhber Mill performs both the functions of mixing and grinding. During the Survey two units reported having one machine each.

CHAPTER - III

EMPLOYMENT

203 workers were reported to be employed in these 18 units during the year 1965, and 212 workers in 19 units during the year 1966. From the above figure it appears that there is an increase of 9 workers and establishment of one more unit in the year 1966 as compared with the employment and number of units of the year 1965.

A table indicating number of workers according to size of employment and the number of units covered under each employment group for the year 1965 and 1966 is given below:-

TABLE No.4

TOTAL EMPLOYMENT ACCORDING TO SIZE OF EMPLOYMENT AND NO.OF UNITS UNDER EACH GROUP

Size of Employment.	1965		1965		1966		1966	
	No.of Units	%age	No.of Workers	% age	No.of Units	%age	No.of Workers	% age
1.	2.	3.	4.	5.	6.	7.	8.	9.
1 to 10	10	55.5	85	41.9	11	57.9	94	44.3
11 to 15	5	28.00	62	30.5	5	26.3	62	29.3
16 to 20	2	11.00	34	16.7	2	10.5	34	16.0
21 to 25	1	5.5	22	10.9	1	5.3	22	10.4
Total	18	100%	203	100%	19	100%	212	100%

The above table reveals that largest percentage of workers are absorbed in the units employing 1 to 10 workers comprising 41.9 per cent and 44.3 per cent during the year 1965 and 1966 respectively giving employment to 85 workers in 1965 and 94 workers in 1966. The total number of units covered under this group are 10 in theyear 1965 and 11 in the year 1966 comprising 55.5 and 57.9 per cent of the total number of units in the year 1965 and 1966 respectively.

The next place goes to the Employment Group 11 to 15. The group has employment percentage of 30.5 and 29.3 respectively during the year 1965 and 1966 giving employment to 62 workers in both the years. The total number of units covered under the group is 5 in both the years comprising 28% and 26.3% of the total number of units during the year 1965 and 1966 respectively.

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CHAPTER - IV

PRODUCTION

During the Capacity Assessment Survey, the actual production figures for the past three years i.e. 1964, 1965 and 1966 were collected. The actual production during these years was Rs.40.56 lakhs, Rs.47.77 lakhs & Rs.72.76 lakhs respectively. Thus, there was an increase of 17.77% and 79.35% in actual production during the years 1965 and 1966 respectively over the year 1964. The average production per unit works out to be Rs.2.25 lakhs, Rs.2.65 lakhs and Rs.3.82 lakhs during the years 1964, 1965 and 1966 respectively. The data pertaining to Production in terms of quantities could not be obtained from most of the units.

The spurt in production in 1966 as compared to earlier years can be mainly attributed to heavy imports of raw materials by almost all the units covered under the Survey. The aftermath of 1965 war with Pakistan gradually subsided and the market started picking up. So the import licences issued earlier were fully utilised by the units. Further a new unit also came up during this period and its production of cement colours was quite impressive. Table No.5 indicates the actual production in terms of value, number of workers production per woker according to size of employment for the year 1965 and 1966.

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TABLE NO.5.

ACTUAL PRODUCTION ACCORDING TO SIZE OF EMPLOYMENT

	1965				1966			
Size of Employment	No.of Units	No.of workers	Actual Production. (Rs)	Production per worker (Rs)	No.of Units	No.of Workers	Actual Production (Rs)	Production per worker (Rs)
1	2	3	4	5	6	7	8	9
1 to 10	10	85	18,58,300	21,862	11	94	27,11,500	28,846
11 to 15	5	62	13,55,700	21,866	5	62	21,26,49	34,201
16 to 20	2	34	7,88,635	23,195	2	34	14,12,000	41,529
21 to 25	1	22	7,75,000	35,227	1	22	10,33,000	46,955
Total	18	203	47,77,635	23,535	19	212	72,76,991	34,325

From the table No.5 it is quite clear that the highest actual production has been captured by the employment group employing 1 to 10 workers i.e. Rs.18,58,300 in the year 1965 and Rs.27,11,500 in the year 1966. The production per worker works out to be Rs.21,862 and Rs.28,846 for this group for the years 1965 and 1966. The next position has been claimed by the employment group employing 11 to 15 workers. The total act production by this group is Rs.13,35,700 and Rs.21,20,491 for the year 1965 and 1966 respectively.

The minimum actual production has been shown by the employment group employing 21 to 25 workers. As regards production per workers the position is altogether reverse i.e. the highest production per worker has been claimed by the Employment group 21 to 25 in both the years i.e. Rs.35,227 and Rs.46,995 respectively.

The bulk consumers of Paints are D.G.S.D (on behalf of Government Departments), Railways, Public Undertakings, State Government Purchase Organizations, State Transport Authorities, Industrial Units, Contractors Engineers and Archetects. From the above list, Government oriented purchase has a prominent place in Paints Sales, According to a private market survey about 40% of the total sales of Paints is covered by Government Purchase. This is the result of an All India Study. In Delhi the estimate of Government purchases may on higher side due to heavy building activity undertaken by the Government and local bodies.

Large Scale Units having an exhaustive distribution arrangements have fully established their Brands all over India. Extensive publicity have created a sheltered market for these Brands which carry with them a wide consumer preference. Their impact is evident in the form of preferential rates offered by Central and State Undertakings if the work is carried with Branded Products. This system has worked to the grevious deteriment of Small Scale Sector and has led them to concentrate on cheap Bazar Products' Quite a few units covered under the Survey were adopting this tactic in order to stand in the market and keep their business running.

In other countries, Small Scale Units have concentrated on specialised products to enter the direct consumer business but the units covered under the Survey expressed their inability to go in for specialised products as in the direct consumer business as well as in the sales to contractors the incidence of long range credit is very high which they are unable to sustain.

Quality consideration does not ~~gernally~~ generally appear to prevail with the units. Only one of the units reported manufacturing according to I.S.I. Specifications that too only in respect of one of its products. The inhibiting factor as stated by the units was the insistence of I.S.I. authorities on the employment of a qualified Chemist and maintenance of well equipped laboratory which the units feel they are unable to afford. A joint effort in this direction has not been attempted.

Most of the units covered under the Survey sell their products through sales Agents by offering them salary as well as commission. Five units reported having their own Emporia for direct sales to customers. A major chunk of Government purchases is effected through D.G.S.&D. who insists on pre-testing of samples from the Government Test House, Alipur. The procedure involved in testing is quite cumbersome and there is inordinate delay in the approval of samples by the Test House. The fee charged by the Test House, is quite heavy and stood in the way of most of the Small Scale Units covered under the Survey opting for test. Moreover, the samples approved by the Alipur Test House are just valid for one year. In view of these difficulties, the Small Scale Units could not procure any substantial orders from the D.G.S&D.

The Survey revealed that a number of units have taken the manufacturing of cement/dry colours as it involved comparatively less capital investment and yields quick dividends. While just the preparation of shade-cards for synthetic paints required about Rs.10,000/- the total cost of machinery required for the manufacture of dry/cement colours works out to be nearly five to seven thousands rupees only./ Moreover, there is no I.S.I.Specification laid down so far for the cement colours. For cement colours, the consuming departments like C.P.W.D. have laid down their own standards and the small scale units covered under the Survey were able to manufacture according to those specifications. Atleast one of the units had also got their samples approved from the Government Test House, Alipur for dry colours and distempers and were branding their products like "our products have been tested at the Alipur Test House and approved."

As the Small Scale Units in Delhi have started producing cheap type of paints, they are finding a ready market in Maharashtra and Rajasthan as in Maharashtra predominently there are large scale units who are producing only quality produts. Units in Delhi are unable to feed the local market to a substantial degree as the Government being a bulk consumer in paints and varnish insists on its specifications and approval by Alipur Test House. One of the factors also stated by the Small Scale Units covered under the Survey was that Large Scale Units sell their products in the consumer market at a substantial higher price but quote lower price for Government purchases. This factor has worked to their comparative disadvantage.

CHAPTER - V

ASSESSED CAPACITY

Assessment has been carried out in accordance with the guidelines laid down by the Development Commissioner, Small Scale Industries, Government of India. The Capacity was assessed on the bottleneck stage on single shift basis for six working hours for 300 working days. The authenticity of machinery being actually owned by the unit or the adequacy of power load to feed the machinery installed was not looked into. The capacity was assessed on the basis of machinery installed and actually being put to use and not on the basis of machinery proposed. For knowing the bottleneck stage each operation was carefully studied and the time taken by each operation was noted down and a time schedule of all the operations was prepared. From an analytical study of time operation schedule it was observed that which operation took maximum time and the output under which operation was the maximum. That operation which consumed maximum time and give minimum output was taken as the bottleneck stage and the capacity was assessed at that operation.

As already explained under the manufacturing process, paint manufacturing is generally divided into two major stages (i) mixing of pigments (ii) Fine grinding to form the finished products. Paints are further usually manufactured in batches to ensure uniformity. For the Assessment purposes the Paints were categorised under the following six categories:-

(1) N.C.Lacquers.
(2) Stiff Paints.
(3) Ready Mix Paints.
(4) Cement and Dry Colours.
(5) Thinners and Varnishes.
(6) N.C.Putty.

Each type of Paint has its own bottleneck stage due to different types of manufacturing and quality of paint to be ensured. The main process is grindip of pigments which differs from unit to unit due to different type of Paints and quality of Paint being manufactured. Grinding of pigments may take 36 hours to 72 hours. To arrive at uniformity 48 hours were taken as an average for the grinding purposes for N.C.Lacquers and Enamels. Dry colours and cement colours take five to six hours for grinding. As regards thinners, the question of bottleneck does not arise as no machinery is involved in its manufacturing. Mixing of Solvents and thinners in Large Barrels is the only process. So past production was taken as the capacity of unit for Thinner.

Table No.6 indicates the item-wise capacity both in terms of value and quantity.

Table No.6.

ASSESSED CAPACITY ACCORDING TO ITEMS OF MANUFACTURE OF ALL THE UNITS.

S.No.	Name of the Item	No.of Units.	Assessed Capacity (In. Qty)	Assessed Capacity (in Rs.)
1	2	3	4	5
1.	Nitrocellulose Lacquers	9	367 K.L.	51,52,000
2.	Stiff Paints	9	1016 M.T.	25,09,000
3.	Ready Mix Paints	4	161 M.T.	6,28,000
4.	Dry/Cement Colours	7	3398 M.T.	50,38,000
5.	Thinners	10	1229 K.L.	26,92,700
6.	N.C.Putty	1	120 K.L.	2,40,000
		40		1,62,59,700

The above table reveals that maximum capacity in terms of value has been claimed by N.C.Lacquers. The capacity of cement and Dry colours closely follows that of Lacquers. The third position is bagged by thinners. Stiff paints and ready mix Paints, which are usually used on wooden materials, come next. The minimum capacity was of N.C.Putty which is required for coating of industrial articles.

IDLE CAPACITY

A comparison of the assessed capacity and actual production reveals a wide gap and consequent idle capacity.

The actual production during the year 1966 was Rs.72,76,991/- while the Assessed Capacity was of the value of Rs.1,62,59,700/- leaving unutilised or idle capacity to the tune of Rs.89,82,709/-. This reveals that only 44.75% of the Assessed Capacity was being utilised by the 19 Units covered under the Survey.

The table given below gives the Assessed Capacity, Actual production in 1966 and idle capacity according to size of Employment.

Table No.7.

ACTUAL PRODUCTION AND ASSESSED CAPACITY ACCORDING TO SIZE OF EMPLOYMENT

Size of Employment	Actual Production in 1966(Rs.)	Assessed Capacity (Rs.)	Idle Capacity (Rs.)
1	2	3	4
1 to 10	27,11,500	72,60,700	45,49,200
11 to 15	21,20,491	40,13,000	18,92,509
16 to 20	14,12,000	32,06,000	17,94,000
21 to 25	10,33,000	17,80,000	7,47,000
Total	72,76,991	1,62,59,700	89,82,709

The above table reveals that maximum idle capacity is available in the Employment Group 1 to 10 whereas the minimum idle capacity exists in the Employment Group 21 to 25.

CHAPTER VI.

REQUIREMENT OF RAW MATERIAL

The Paints and Varnish manufacturing requires raw materials of so many kinds. The principa ingredients used by this Industry can be classified into four major groups as under:-

1. Pigments such as body pitments i.e. Titanium Dioxide and coloured pigments.
2. Vehicles, such as drying oils and varnishes.
3. Driers, such as Linseed oils and/or tung oil cooked with drying sales from lead manganese, resins, gums, turpentine or mineral salts.
4. Thinners, such as Turpintine (for oil Paints) and Toluene. Benzine and Xylene for Lacquers.

Indigenous production of raw materials required for the manufacture of Paints has been steadily going high and covers 60% of it. Production of alkydresin, anetese, titanium dioxide and aluminium paste in the country has no doubt reduced rather minimised the dependence of Paint Industry on foreign supply of raw materials. But the Small Scale Units covered under the Survey complained of difficulties in getting adequate quantities of titanium dioxide at authorised prices and synthetic resins. Travancore Titanium Products (Ltd), Travandrum Kerale State is the only unit manufacturing titanium Dioxide in the country. The production of Titanium Dioxide of this unit is not adequate to meet the requirements of all the Paint manufacturers eventhough 50 per cent of the production of this unit is reserved only for paint industry and the balance 50 per cent for all the other industries using it. The policy followed for the distribution of Titanium Dioxide is to take into account the past consumption of consumers and fix a quota. But most of the Small Scale Units are comparatively new comers to this field and this system is a hinderance not only to the new units but also to those who have an ambitious expansion programme and have got the requisite capacity to implement them.

Although pigments like Titanium Dioxide, Zinc Oxide and Litharage etc. are produced in India, there are still many plasticisers, solvents and disbursing agents being imported. Experiments for developing indigenous substitutes for some imported raw materials have reached on advance stage at the National Chemical Laboratory, Poona. In order to develop the production of these substitutes, the Government of India is gradually discouraging the imports of the imported items required for paints.

As similar items are used in manufacturing of N.C.Lacquers, Stiff Paints and Ready Mix Paints, N.C.Putty and Thinners it became difficult to mention the requirements of Raw materials of each type separately. As such consolidated requirements of all the types of materials have been collected during the course of Survey.

Requirements of scarce raw materials in terms of Assessed Capacity of all the 19 Small Scale Paint Manufacturing units covered under the Survey is given below:-

S.No.	Name of the Scarce Raw Materials.	Requirements
1	2	3
1.	Nitrocellulose Cotton	45.5 M.T.
2.	Nitrocellulose Chips.	14.9 M.T.
3.	Butyl Acetate	72.0 M.T.
4.	Ethyl Accetate	52.0 M.T.
5.	Xylene	115.0 K.L.
6.	Toluene	106.5 K.L.
7.	Benzol	84.5 K.L.
8.	Titanium Dioxide	459.0 M.T.
9.	Barytes.	2962.5 M.T.
10.	Dies Pigments	1242.0 M.T.
11.	Resin	255.0 K.L.
12.	Zinc Oxide	45.0 M.T.
13.	Oils and Mediums.	129.0 M.T.
14.	Spirit	266.0 K.L.
15.	Gumcopal	23.0 M.T.

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CHAPTER VII

SUMMARY AND RECOMMENDATIONS

The present study was taken up as a part of All India Assessment of Capacities Survey in respect of 22 Specified Industries as per directions and guidelines laid down by the Development Commissioner, Small Scale Industries, Government of India with the object of evolving a rational basis for equitable allocation of scarce raw materials between Large, Medium and Small Scale Sectors.

The first unit for the manufacture of Paints and Varnishes was established in Delhi in 1931. According to 1950-51 Industrial Survey there were nine units in Delhi engaged in the manufacture of Paints and Varnish while by 1965, according to the Census of Industrial Units conducted by this Department their number had gone upto 63. Under the present Survey only 19 units employing more than five workers and in existence prior to March, 1967 were covered. Dry Distempers, Paste Paints, Stiff Paints, Ready Mixed Pastes, Varnish Paints, N.C.Lacquers and Thinners were being manufactured by them.

Paint Industry is essentially a processing Industry, manufacturing mainly on batch basis. It consists of dispensing pigments and extenders in suitable vehicles and thinning down with solvents to the required consistancy. Ball Mills, Edge Runner Mills, Single/Triple Roll Mills, Attritors, Mixers of various types are the major items of machinery required for its manufacture.

The units covered under the Survey were employing 203 and 212 workers during the years 1965 and 1966 respectively. The actual production reported by the units covered under the Survey amounted to Rs.40.56 lakhs, Rs.43.77 lakhs and Rs.72.76 lakhs respectively during the years, 1964, 1965 and 1966. Only one of the units was reportedly manufacturing one of its products according to I.S.I. specification while another had got its sample of cement colours approved from the National Test House, Alipur and was on the approved list of C.P.W.D.

The Assessed Capacity of these units worked out to be Rs.1,62,59,700/- which when compared to production figures of 1966 leaves an unutilised capacity of Rs.89,82,709/- only 44.75% of the present capacity was being utilised by the units covered under the Survey. The major factors standing in the way of these units for utilization of their assessed capacity were stated to be (i) Stiffer restrictions on Small Scale Sector for import of raw materials (ii) intense competition from the Large Scale Sector and (iii) inadequate allocation of vital raw materials like Titanium Dioxide. Small Scale Units are allowed import licences only upto Rupees fifty thousand at one time from free sources while for the rest of the allotment they can import from U.S.A., Germany or Rupee area while no such restrictions have been placed on the large scale sector. Large Scale Sector is allowed to import from U.K., Japan, Australia where the prices of raw materials required for Paints and Varnishes are much cheaper as compared to U.S.A., Gemmany, and Rupee Area. Small Scale Sector is also denied any share in non project aid.

Regarding the supply of indigenous raw materials, the Small Scale Sector represented for enhanced allocation of Titanium Dioxide. They complained that due to its non-availability to the required degree they could not be sure of executing Government orders within stipulated time. Atleast for executing Government orders they should get special allocation of raw materials particularly Titanium Dioxide.

The machinery required for the manufacture of Paints and Varnish Industry being manufactured within the Country has still not come of the standard while there are stiffer restrictions on the imports of machinery from abroad. This has blocked a number of Small Scale Units from modernising their plants. The Small Scale Units pressed their claim for the liberal import of Single/Triple Roller Mills. The Small Scale Units instal the discarded machinery of large scale units as large scale units are able to modernise their plant often due to foreign collaboration. This single factor leaves the Small Scale Sector a step behind the large scale sector in improved technology. A consortium of Small Scale Units with foreign collaboration can easily withstand the competition of Large Scale Sector and can also manufacture sophisticated products. Possibilities of setting up such a consortium in Delhi may be explored.

In spite of the competition prevailing in the Paint Industry, the level of prices of paints in India is much higher as compared with international prices and the profit margin of the Industry is much more attractive in India than anywhere in the world. It is an ideal industry for development in the Small Scale Sector as its investment potential is comparatively lower and fruitation period quicker. Its decentralised growth in the Small Scale Sector is necessary to avoid transporting large quantities of comparatively cheaper products from one part of the country to other. If the Government accords prefential treatment to Small Scale Units in the enhahced allocation of raw materials like Titanium Dioxide not only the existing capacity will be utilised but there will be tremendous scope for further growth.

LIST OF UNITS MANUFACTURING PAINTS AND VARNISHES COVERED UNDER THE SURVEY

S.No.	Name & Address of the Units.	Telephone Nos.
1	2	3
1.	M/s.Wembley Paints & Chemicals, 313/76, Tulsi Nagar, Old Rohtak Road, Delhi.	F: 5[illegible]8934 O: 221231
2.	M/s.Jallo Subsidiary Industries Co. India (Pvt.) Ltd., 617/1, Vishwas Nagar, Delhi. O: 7/33, Daryaganj, Delhi.	O: 271593
3.	M/s.Friends Chemicals, Plot No.997, Block B, Preet Nagar, Patparganj Road, Delhi. O: 1907, Lal Kuan, Delhi.6.	O 263359
4.	M/s.Delhi Paint Corporation, 10,New Rohtak Road, New Delhi.	F: 564786
5.	M/s.Calcutta Paints & Chemical Works, 2E/5, Jhandewalan Extension, New Delhi.	F: 566405
6.	M/s.International Paints Industries, B-5/8, Rana Partap Bagh, Delhi.6.	F:226883
7.	M/s.New India Paints Industries, 4/43-Vishwas Udyog Kender, Vishwas Nagar, Shahdra. O: Bhagwan Dass Building, Gandhi Nagar.Delhi.	F: 213833
8.	M/s.Patel & Parkes Paint Industries Private Ltd., G.T.Road, Delhi - Shahdra.	F: 212328
9.	M/s.Crystal Paint Industries, 284-G.T.Road, Delhi - Shahdra.	F: 212634

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10.	M/s.K.Kumar Paints House, 3831/22,Rehgarpura, Karolbagh, New Delhi.	-
11.	M/s.Minerals Traders, 3840, Nicholson Road, Delhi.	F:222832
12.	M/s.Teetee Paints Industries, 1971, Gunj Mirkhan, Delhi.	F:274002
13.	M/s.Master Paints, Barrack No.1-D, Hudson Line, Kingsway camp, Delhi.	
14.	M/s.Spraylac Paints Corporation, Gurdwara Bala Sahab Road, Jeewan Nagar,New Delhi.	F:75392 O:271744
15.	M/s.Picture Varnish, 2694-95,Sadar Thana Road, Delhi-6.	F:227070 O:227744
16.	M/s.Hansa Paint Colour & Varnish Works, 5th Mile Stone Rohtak Road,Delhi.	F:568468 O:271432
17.	M/s.Bhagsons Paint Industries(India), 16-A, D.L.F.Industrial Area, Najafgarh Road, New Delhi.	F:564258
18.	M/s.Metro Paint Industries, 5646, Rehman Building, Qutab Road, Delhi.	F:261443
19.	M/s.Metro Paint Industries, 20-G.T.Road, Delhi - Shahdra.	F:213985